

**What is claimed is:**

1. A code execution apparatus using a multiprocessor system, comprising:

5 a secure memory storing an encrypted code of a secure task and verifying information for verification of validity of the encrypted code;

10 a secure processor executing the encrypted code when the validity of the encrypted code is verified according to the verifying information;

a normal memory storing a code of a normal task;  
a normal processor executing the code of the normal task;

15 a controller allocating the secure task and the normal task, and storing the encrypted code in the secure memory and the code of the normal task in the normal memory.

20 2. The apparatus according to claim 1, wherein said secure memory stores the encrypted code in units of physical memory allocation, stores the verifying information for the encrypted code in the units, and verifies the encrypted code in the units according to the verifying information, and the secure  
25 processor fetches, decrypts, and executes an encrypted

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instruction included in an encrypted code whose validity has been verified.

3. The apparatus according to claim 1, wherein  
5 said secure processor holds a plurality of decryption keys, and decrypts the encrypted instruction using a specified decryption key in the plurality of decryption keys.

10 4. The apparatus according to claim 2, wherein said secure memory and said secure processor share a session key after mutual authentication, said secure memory further encrypts the encrypted instruction using the session key, and transfers the encrypted instruction  
15 to the secure processor.

5. The apparatus according to claim 1, further comprising  
a secure drive further encrypting the encrypted  
20 code using a unique key, and storing the encrypted code, wherein

said secure drive and said secure memory share a session key after mutual authentication, said secure drive decrypts the encrypted code using the unique key  
25 at a read instruction from said controller, encrypts

the code using the session key, and transfers the code to said secure memory.

6. The apparatus according to claim 1, wherein  
5 at least parts of said secure memory and said normal memory overlap each other.

7. The apparatus according to claim 1, wherein  
10 said secure processor fixes at least a part of a logical circuit for executing an encrypted code in a circuit state in a non-volatile manner using the encrypted code.

8. The apparatus according to claim 7, wherein  
15 said secure processor erases a previous circuit state of the logical circuit, and newly overwrites the state.

9. A memory, comprising:  
20 a device storing an encrypted code in units of physical memory allocation;  
a device storing verifying information for verification of validity of the encrypted code in the units; and  
25 a device verifying the encrypted code in the units

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according to the verifying information.

10. A processor, comprising:

5 a device receiving from a memory storing an encrypted code a notification that the encrypted code is valid;

a device fetching and decrypting an encrypted instruction contained in the encrypted code when the notification is received; and

10 a device executing a decrypted instruction.

11. A computer-readable storage medium recording a program for a computer, said program enabling the computer to perform:

15 allocating a secure task and a normal task in a multiprocessor system having a secure processor for performing the secure task and a normal processor for performing the normal task;

20 storing an encrypted code of the secure task and verifying information for verification of validity of the encrypted code in a secure memory; and

allowing the secure processor to execute the encrypted code when the validity of the encrypted code is verified according to the verifying information.

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12. A propagation signal which propagates a program for a computer to the computer, said program enabling the computer to perform:

5 allocating a secure task and a normal task in a multiprocessor system having a secure processor for performing the secure task and a normal processor for performing the normal task;

10 storing an encrypted code of the secure task and verifying information for verification of validity of the encrypted code in a secure memory; and

allowing the secure processor to execute the encrypted code when the validity of the encrypted code is verified according to the verifying information.

15 13. A code distributing method, comprising:

a code generator providing an executable code for a code authentication organization;

20 said code authentication organization adding to the code verifying information for verification of validity of the code, and distributing the code to a user of a multiprocessor system; and

25 said multiprocessor system including a secure processor for performing a secure task using the code, and a normal processor for performing a normal task, allocating the secure task and the normal task,

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verifying the validity of the code according to the verifying information, and executing the code.

14. The method according to claim 13, wherein  
5 said code authentication organization presents a fee to the code generator and collects the code, pays the fee when the code is collected, presenting a code fee to the user, adds the verifying information, provides the code for the user, and simultaneously  
10 collects the code fee.

15. The method according to claim 13, wherein  
said code authentication organization divides the code into two or more divisions, first distributes a  
15 part, and then distributes rest of the code to the user at a request of the user.

16. The method according to claim 15, wherein  
said code authentication organization presents a  
20 fee to the code generator and collects the code, pays the fee when the code is collected, presents a code fee for the rest of the code to the user, adds verifying information, and provides the code and receives the code fee.

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17. A code distributing method, comprising:  
a code generator providing an executable code for  
a code authentication organization, and paying a  
commission;

5       said code authentication organization adding to  
the code verifying information for verification of  
validity of the code;

10       said code generator distributing the code to a  
user of a multiprocessor system, and receiving a fee  
paid by the user; and

15       said multiprocessor system containing a secure  
processor for performing a secure task using the code,  
and a normal processor for performing a normal task,  
allocating the secure task and the normal task,  
verifying the validity of the code according to the  
verifying information, and executing the code.

18. The method according to claim 17, wherein  
20       said code generator divides the code into two or  
more divisions, first distributes a part, then presents  
a fee for rest of the code at a request of the user,  
provides the code, and receives the fee.

19. A code execution apparatus using a  
25       multiprocessor system, comprising:

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secure memory means for storing an encrypted code of a secure task and verifying information for verification of validity of the encrypted code;

5 secure processor means for executing the encrypted code when the validity of the encrypted code is verified according to the verifying information;

normal memory means for storing a code of a normal task;

10 normal processor means for executing the code of the normal task;

control means for allocating the secure task and the normal task, and storing the encrypted code in said secure memory means and the code of the normal task in said normal memory means.

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20. A memory, comprising:

means for storing an encrypted code in units of physical memory allocation;

20 means for storing verifying information for verification of validity of the encrypted code in the units; and

means for verifying the encrypted code in the units according to the verifying information.

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21. A processor, comprising:



means for receiving from a memory storing an encrypted code a notification that the encrypted code is valid;

5 means for fetching and decrypting an encrypted instruction contained in the encrypted code when the notification is received; and

means for executing a decrypted instruction.

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